

RESPONSE AND REQUEST FOR RECONSIDERATION

Please enter the amendments as shown above. Applicants have amended Claims 1 and 20. Claim 1 has been amended as follows: the word "*and*" was inserted before component (d); the grammatical error to the phrase "*metal- or ammonium-containing*" was corrected; and the phrase "*said lubricant*" was deleted and replaced with "*the lubricant composition*". Support for the amendments to the Claim 1 can be found in the specification and the claims, specifically Claim 1. Claim 20 has been amended to specify the components being combined in Claim 1, support for this amendment can be found in the Claim 1. Applicants request the Examiner to reconsider the present application in view of the above amendments and following remarks.

Claim 1 was objected to because (1) the word "*and*" was missing before component (d), and (2) a grammatical error was found in the phrase "*metal-or ammonium-containing*". The Applicants have corrected these errors. Accordingly, it is respectfully submitted that the objection should be withdrawn.

Claims 1-21 have been rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. The Applicants have amended Claim 1 by deleting the phrase "*said lubricant*" and replacing it with the phrase "*the lubricant composition*". The Applicants have amended Claim 20 by specifying the components being combined in Claim 1. Claims 1 and 20 as amended comply with the requirements of 35 U.S.C.112 second paragraph. Accordingly, it is respectfully submitted that the rejections to Claims 1-21 should be withdrawn.

Claims 1-14 and 16-21 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Palazzotto et al (US. 6,642,191) in view of L'Heureux (US 6,455,477) or Chamberlin (US 5,422,02). Additionally, Claim 15 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Palazzotto in view of L'Heureux or Chamberlin and further in view of Tipton et al (US 5,354,485). Applicants respectfully traverse these rejections.

Applicants' claimed invention relates to a low-ash, low-phosphorus lubricant composition comprising an oil of lubricating viscosity, succinimide dispersant, hindered phenol antioxidant and at least one metal-or ammonium-containing sulfonate or phenate detergent.

The Examiner maintains that Palazzotto teaches a lubricating oil composition comprising a base oil, succinimide dispersant, hindered phenol antioxidant and a

detergent derived from metal sulfonates and phenates. The Examiner further maintains that, Palazzotto fails to exemplify combinations of the presently claimed specific components, but, that Palazzotto does teach that no significant differences were found when using different detergent, dispersants and wear inhibitors (see col 12, lines 27-34). The Examiner then concludes that it would have been obvious to one of ordinary skill in the art to utilize any combination of detergent, dispersant and wear inhibitor in a lubricant composition.

It is respectfully submitted that the Examiners reliance on the teachings found in Palazzotto is improper.

Palazzotto teaches that no significant differences in performance are found when detergent, dispersant, and wear inhibitors are varied in a lubricant composition (see col 12 at lines 26-34).

In contrast to the teachings of Palazzotto, the data found below in Table 1, which is disclosed in the Declaration submitted by Virginia Carrick dated August 21, 2006, clearly demonstrates that differences in lubricant composition performance are shown when using various detergents. For example, in Table 1 the data shows that, in the Panel Coker Test, a lubricant composition containing a low TBN calcium sulfonate detergent (Samples A1 and A4) out performs a lubricant composition containing a high TBN calcium sulfonate detergent (Samples A2 and A5), and a lubricant composition containing high TBN calcium phenate detergent (Samples A3 and A6). The Panel Coker Test is described on page 17 of the current application. Table 1 shows unexpected results in performance when different detergents are utilized a lubricant composition. There is no teaching, suggestion or motivation in Palazzotto that, specific detergents, when used in a lubricant composition affect performance. In contrast, the Applicants' claimed invention teaches that detergent selection affects performance. For the above mentioned reasons, Applicants respectfully submit that the claimed invention is novel and not suggested by or obvious from the cited art and rejection should be withdrawn.

The Examiner also maintains that Palazzotto teaches a preferred ash content of 0.10-1.50 wt % and that two-cycle engines require the lubricating oil to be ashless to minimize deposit formation. The Examiner then concludes that it would have been obvious to prepare a lubricant composition with lower amounts ash.

It is respectfully submitted that the Examiners reliance on the teachings found in Palazzotto is improper.

In contrast to the teaching of Palazzotto, the data found below in Table 2, which is disclosed in the Declaration submitted by Virginia Carrick dated August 21, 2006, demonstrates that low-ash lubricant formulations are not equal in minimizing deposit formation and it would not be obvious to lower the amount of ash delivered to a lubricant formulation and expect to minimize deposit formation. Table 2 compares

formulations with identical percent ash values, that is, 0.17 wt % of ash delivered to the lubricant composition. Example 1(b), which uses a high TBN detergent, shows worse performance in the Panel Coker Test, that is, more deposits, compared to Example 1(a), which uses a low TBN detergent. This comparison demonstrates that: (1) lubricant compositions with low ash values do not necessary minimize deposit formation and (2) in lubricant formulations with low ash values (less than 0.2), detergent selection affects performance. Thus, it would not be obvious that lower ash would give lower engine deposits. There is no teaching, suggestion or motivation in Palazzotto to use a low TBN detergent (Total Base Number of up to 100) to deliver low ash to a lubricant composition. In contrast, the Applicants' present invention teaches, that when the lower ash is delivered by a low TBN detergent (Total Base Number of up to 100) the performance is achieved. For the above mentioned reasons, Applicants respectfully submit that the claimed invention is novel and not suggested by or obvious from the cited art and rejection should be withdrawn.

Table 1: Palazzotto et al. Comparative Sample A

6,642,191	Sample A1	Sample A2	Sample A3	Sample A4	Sample A5	Sample A6
Group II base oil	100	100	100	100	100	100
Succinimide dispersant A	3.3	3.3	3.3			
Succinimide dispersant B				3.3	3.3	3.3
Low TBN Ca sulfonate detergent (TBN = 10)	3.4			3.4		
High TBN Ca sulfonate detergent (TBN = 300)		3.4			3.4	
High TBN Ca phenate detergent (TBN = 255)			3.4			3.4
Zinc dithiophosphate	0.38	0.38	0.38	0.38	0.38	0.38
3,5-di-t-butyl 4-hydroxy phenol propionate antioxidant	0.91	0.91	0.91	0.91	0.91	0.91
foam inhibitor	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Percent Ash*	0.4	1.4	1.1	0.4	1.4	1.1
Panel Coker Deposit Test, Universal Rating (higher is better)	90	78	45	94	70	43

Note: Except for the Panel Coker results all values are presented in weight percent. Additionally, all the above components/ingredients contain conventional amounts of diluent oil.

Note: Succinimide dispersant A is a low molecular weight succinimide dispersant containing a condensed amine.

Note: Succinimide dispersant B is a high molecular weight succinimide dispersant.

*Note: Percent Ash is measured on the finished lubricating oil of Sample A1-A6.

Table 2:

	Example 1(a)	Example 1(b)
Group II base oil	100	100
Succinimide dispersant A	4.24	4.24
Low TBN Ca sulfonate detergent (TBN = 10)	2	
High TBN Ca sulfonate detergent (TBN = 300)		0.42
ashless antiwear	0.50	0.50
3,5-di-t-butyl 4-hydroxy phenol propionate antioxidant	1	1
Foam inhibitor	0.007	0.007
Percent Ash	0.17	0.17
Panel Coker Deposit Test, Universal Rating (higher is better)	92	61

Note: Except for the Panel Coker results all values are presented in weight percent. Additionally, all the above components/ingredients contain conventional amounts of diluent oil.

Note: Succinimide dispersant A is a low molecular weight succinimide dispersant containing a condensed amine.

Note: ashless antiwear agent is TPP (tri-phenyl phosphite)

Note: Example 1(a) is an example of the present invention.

*Note: Percent Ash is measured on the finished lubricating oil of Examples 1(a) and 1(b).

In light of the above arguments, which highlights the deficiency of Palazzotto; L'Heureux, Chamberlin, and Tipton are no longer relevant prior art. Applicants respectfully submit that the claimed invention is novel and not suggested by or obvious from the cited art and the rejection should be withdrawn.

For the foregoing reasons it is submitted that the present claims are in condition for allowance. The foregoing remarks are believed to be a full and complete response to the outstanding office action. Therefore an early and favorable reconsideration is respectfully requested. If the Examiner believes that only minor issues remain to be resolved, a telephone call to the Undersigned is suggested.

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Any required fees or any deficiency or overpayment in fees should be charged or credited to The Lubrizol Corporation Deposit Account No. 12-2275.

Respectfully submitted,

THE LUBRIZOL CORPORATION

A handwritten signature in black ink, appearing to read "Jason S. Fokens", is written over a horizontal line.

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